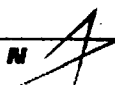




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DATE: June 23, 2009

TO: Cheryl Hawkins, U.S. EPA/ERTC Work Assignment Manager

THROUGH: Jeff Bradstreet, REAC Air Section Leader

FROM: Amy DuBois, REAC Task Leader

SUBJECT: Heller Heat Treating, Clifton, NJ  
WA #60-001 - AIR MONITORING TRIP REPORT

## BACKGROUND

In early March 2009, Clifton Fire Department personnel asked the Environmental Protection Agency (EPA) Region II to accompany them on an inspection of the Heller Heat Treating Facility in Clifton, New Jersey (NJ) because they suspected hazardous materials were stored inside the premises. Heller Heat Treating ceased operations and is in Chapter 7 bankruptcy. During the inspection, used quench oil, zinc oxide sludge, sodium nitrite, sodium nitrite sludge, ammonia tanks, natural gas tanks, and approximately 400 drums of various chemicals including solvents, acids, caustics, paint, oxidizers and unknown chemicals were among the materials observed on site.

A site assessment conducted on April 28, 2009 by United States Coast Guard personnel, activated by EPA Region II, indicated high levels of volatile organic compounds (VOCs) using a flame ionization detector (FID). Volatile organic compounds were not detected using a photo ionization detector (PID). On April 29, 2009 the EPA Environmental Response Team (ERT) requested Response Engineering Analytical Contract (REAC) personnel to assist EPA Region II with assessing the site buildings to determine whether conditions inside the building were too dangerous to allow public access for an auction of site assets scheduled for the next day.

## OBSERVATIONS AND ACTIVITIES

On April 30, 2009, REAC personnel mobilized to the site and conducted air monitoring for VOCs, nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>). Air monitoring for VOCs was conducted with an FID and PID throughout three buildings of the Heller Heat Treating Facility. The FID readings were measured with and without a charcoal filter (CF) to determine the presence or absence of non-methane organic compounds (NMOC). The charcoal filter scrubs the NMOC from the sample. Air monitoring for NO and NO<sub>2</sub> was conducted throughout the buildings using a RAE Systems MultiRAE Plus multiple-gas monitor (MultiREA Plus) equipped with NO and NO<sub>2</sub> sensors.

### Air Monitoring Methodologies

Air monitoring for VOCs was performed utilizing a TVA-1000 toxic vapor analyzer using its FID. Air monitoring for

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VOCs was also conducted using the PID of the MultiRAE Plus. The PID utilizes a 10.6 electron volt (eV) lamp. Each detector responds to a wide range of organic compounds and the PID responds to a few inorganic compounds as well. While specific compounds can not be identified by either detector, the use of a charcoal filter in the TVA-1000 probe filters out NMOC, providing the concentration of methane. Subtracting the reading using the CF from the reading without the CF provides an approximation of the NMOC concentration of the plume.

Air monitoring for NO was conducted using the NO sensor of the MultiRAE Plus. The range of the sensor is 0 to 250 parts per million (ppm) with a resolution of 1 ppm. Air monitoring for NO<sub>2</sub> was conducted using the NO<sub>2</sub> sensor of the MultiRAE Plus. The range of the NO<sub>2</sub> sensor is 0-20 ppm with a resolution of 0.1 ppm.

#### **Air Monitoring Results**

REAC and ERT personnel entered Building 2, the furnace room, via Building 3. Readings in the furnace room were from 200 to 600 parts per million (ppm) on the FID, with no readings on the PID. REAC and ERT personnel then entered the mezzanine in Building 5. The mezzanine readings at the top of the stairs were 200 ppm on the FID and non-detect (ND) on the PID. At the drums on the near (stair) side of the mezzanine, readings were 220 ppm with the CF, 240 ppm without the CF, and ND on the PID. In the lab on the far side of the mezzanine, readings were 560 ppm on the FID with and without the CF and ND on PID. Readings were taken above a used oil tote, 800 ppm without the CF, 600 ppm with the CF and 0.2 ppm on the PID. Overall, the air throughout the buildings had the same measurements with and without the CF for the FID, with no readings on the PID. This indicates methane is the most likely source of the elevated VOC readings. No readings were measured for NO or NO<sub>2</sub> using the MultiRAE Plus in any part of the buildings.

The air monitoring data sheet is included as Appendix A.

#### **FUTURE ACTIVITIES**

No future activities are anticipated at this time.

cc: Central File WA 0-001

**Appendix A**  
**REAC Air Monitoring Worksheet**  
**Heller Heat Treating**  
**June 2009**

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